By Rep. Rush Holt

A clash is underway in Washington, D.C. between two starkly different visions for the U.S. government's role in research and development. The outcome of this debate will shape the nation's scientific landscape for years to come.

The first vision is a grim and pessimistic "No, We Can't" view. Its proponents insist that the federal government can play no substantive role in advancing science or technology. The argument is that the government has been ineffective, that "investment" is a codeword for wasteful spending, and that the only way forward is for the government to lower its sights, stop making new investments, and scale back spending. This view is encapsulated in the recently enacted Budget Control Act of 2011, which demands $2.4 trillion in federal spending cuts. Considering that, as a share of the US economy, the government's support for research and development (R&D) has fallen by nearly two-thirds since the 1960s, I have little doubt that R&D will bear more than its share of these latest cuts.

A hard spending cap forces false choices: should the U.S. invest in badly needed new science instrumentation or in educating inner-city kids? The truth is that the nation must invest in many things. Fortunately, there exists another, far more hopeful vision for the federal government, one that rejects the notion that government budgeting must begin with a hard cap. The recent American Recovery and Reinvestment Act of 2009 demonstrates how federal investment in R&D can drive the economy forward. I was part of the negotiations that put $22 billion of new R&D funding into science agencies, like the National Institutes of Health, the National Science Foundation (NSF), and the National Aeronautics and Space Administration. How many jobs did these funds create, and how many more will they create in the future? We won't have the final answer for years. How many lab technicians have been hired, and how many electricians wired the labs? The accounting is difficult now, and until the scientific and technological accomplishments have reverberated through the economy, the full effect cannot be known. It appears that the short-term benefits are similar to shovel-ready construction projects, and for the long term, past experience is very promising. The return on spending by the NSF over the decades appears to be very large. And the most comprehensive study of the economics of the Apollo space program found that its $25 billion in government investments returned $181 billion to the economy.

Science is usually a smart investment for a nation's future, and it is more important today than ever before. America's inflation-adjusted borrowing costs have fallen to historic lows. When the private sector is not making enough investments and consumers are not spending, Congress should make the investments that will pay large dividends: public and private scientific research, education in science and engineering, and infrastructure projects to support scientific growth. An investment-focused vision for America could begin by fulfilling the commitments

made in the America COMPETES Act, enacted in 2007 and reauthorized in 2010. That law authorized a doubling of the budgets at key science agencies and created the Advanced Research Projects Agency - Energy (ARPA-E) to fund transformative research on energy technologies. If Congress were to fulfill that law's vision for scientific investment, it would both create good-paying jobs today and lay the groundwork for a far stronger economy tomorrow.

This will be a daunting task. With the Budget Control Act, Congress appears to have said, in effect, that federally sponsored science has no role to play in advancing the economy, that unemployment is a problem that only time will cure, and that the nation's best days are behind us. How contrary to American tradition that would be! It must not prevail.

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